

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/JP2004/005727

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H05B6/66 H05B6/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 0163, no. 02 (M-1275), 3 July 1992 (1992-07-03) & JP 4 084026 A (TOSHIBA CORP), 17 March 1992 (1992-03-17)	6
A	abstract	1-5, 7-10
X	EP 0 301 805 A (MATSUSHITA ELECTRIC IND CO LTD) 1 February 1989 (1989-02-01)	1, 2, 4, 10
Y	abstract column 7, line 1 - line 4 column 8, line 2; figure 4 column 12, line 45 - line 50; claim 3 ----- -/-	7

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *O* document referring to an oral disclosure, use, exhibition or other means
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Date of the actual completion of the international search

22 July 2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 274 208 A (NODA TOMIMITSU) 28 December 1993 (1993-12-28)	1,2,4,10
Y	abstract column 1, line 5 - line 46; figures 1,12 column 11, line 34 - column 12, line 9 -----	7
Y	US 5 548 101 A (LEE EUNG H) 20 August 1996 (1996-08-20)	7
A	the whole document -----	1-6,8-10
A	PATENT ABSTRACTS OF JAPAN vol. 0151, no. 06 (E-1044), 13 March 1991 (1991-03-13) & JP 2 312182 A (TOSHIBA CORP), 27 December 1990 (1990-12-27) abstract -----	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2004/005727

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 4084026	A	17-03-1992	JP 2892454 B2	17-05-1999
EP 0301805	A	01-02-1989	JP 1194287 A	04-08-1989
			JP 1935259 C	26-05-1995
			JP 6065150 B	22-08-1994
			JP 1031391 A	01-02-1989
			AU 2005488 A	20-04-1989
			CA 1303682 C	16-06-1992
			DE 3855257 D1	05-06-1996
			DE 3855257 T2	19-12-1996
			DE 3875839 D1	17-12-1992
			DE 3875839 T2	18-03-1993
			EP 0301805 A1	01-02-1989
			EP 0489725 A2	10-06-1992
			KR 9106174 B1	16-08-1991
			US 4967051 A	30-10-1990
US 5274208	A	28-12-1993	JP 3280388 A	11-12-1991
			JP 4032188 A	04-02-1992
			JP 4032187 A	04-02-1992
			JP 2839646 B2	16-12-1998
			JP 4032189 A	04-02-1992
			JP 4032191 A	04-02-1992
US 5548101	A	20-08-1996	KR 160406 B1	15-12-1998
			DE 4444778 A1	22-06-1995
			JP 2617279 B2	04-06-1997
			JP 7211453 A	11-08-1995
JP 2312182	A	27-12-1990	JP 2645139 B2	25-08-1997